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ADOLPHE SAX AND HIS SAXOPHONE

by

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Cover by JAN COX

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THROUGH HISTORY WITH J. WESLEY SMITH "Posterity will never forgive you, Adolphe Sax!"

Courtesy of the Saturday Review of Literature

WHAT is a saxophone?

- A nuisance.
- That is no definition.
- It is at most a mongrel instrument, a somewhat unnatural blending of the clarinet and the English horn. The classics of the 18th century, Bach, Händel ignored it, likewise Mozart. Nor did it exist in the days of Beethoven, Weber and Schubert. And when at last it was invented in 1842, by Adolphe Sax, a Belgian, it was severely criticized and vilified by many an important critic or a famous conductor. A still-born invention, doomed to oblivion. Berlioz, however, had a high esteem for Sax and loved his instruments, and Rossini said of the saxophone: that it produced "la plus belle pâte de sons que je connaisse" (the finest blending of sound that I have met with).

Let us forget about the sound for just a moment, and consider the shape of the saxophone, tenor or alto: it is really beautiful, with its graceful curved lines, its shining metallic cup that recalls the chalice of an arum-lily. Indeed, the saxophone is a thing of beauty.

- I wish it had never been born.
- Please, be impartial towards the splendid instrument. Its qualities and its defects depend on the qualities and the defects of the performer. A piano can be a torture and a violin a nightmare. However, if you are a musician or a music-lover, maybe you will become less prejudiced against the saxophone, after you have listened to the story, quasi eroïca, of its only begetter, Adolphe Sax.

It all began in Dinant, a tiny Belgian city, nestled on the right

bank of the Mense, against a high cliff surmounted by a ruined fortress. Invasious and wars have more than once swept through the town. And the successive generations are never given the time to quite forget the horrors witnessed by their forefathers.

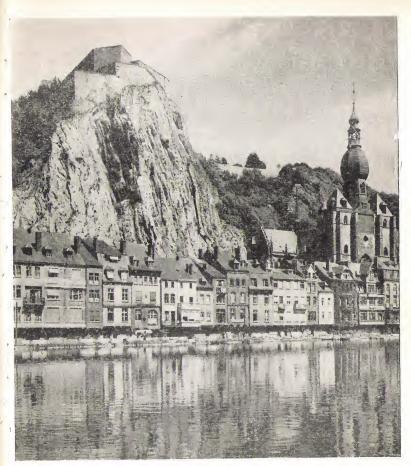
Nevertheless, after each disaster and each massacre, the tenacions Belgian people rebuilt their town. There it stands now, as it stood before 1914, with its bulbous steeple that reminds us of a chess-pawn, or maybe some strange musical instrument.

Dinant through the ages was famous for two characteristic products: the hammered plate of yellow copper, called dinanderie, that was the principal source of the city's great wealth; and the couques de Dinant a kind of hard and crisp ginger-bread, made out of greatbarley flour and honey, and molded into various shapes. Both dinanderies and couques were bright, flaming. shining things. Would it require on the part of a conjurer more than a touch of his wand to change these exquisite forms into sonorous, fiery, caressing brass instruments? Some transmutation of that kind probably happened.

In the beginning of the 19th century, lived in Dinant a manufacturer of brass and woodwind musical instruments by the name of Charles Joseph Sax. On November sixth 1814, Antoine-Joseph, who was to be known as Adolphe, the first of his eleven children, was born. During the next year, after the battle of Waterloo, Charles Joseph established himself in Brussels. King William I of the Lowlands appointed him his musical instrument manufacturer and commissioned him to make the band instruments for the newly created army of his "new-fangled" kingdom.

It is very common for a son to follow in the steps of his father. In the fine arts and in the field of music, hereditary dispositions are often to be found, and the names of Brueghel and Raphael, of Bach and Mozart, come instantly to one's mind. In the handicrafts, such inherited gifts häve still greater possibilities of developing. Without indulging in psycho-analytical considerations, we can take it as a fact that the imitation of the father's craft is the child's favorite game. No wonder that little Adolphe Sax should have been, from his early years on, familiarized with the shape and structure of all kinds of brass and woodwind instruments. At six, he was able to drill a clarinet's body properly and to twirl the cup of a horn. While still an apprentice in his father's workshop, the young Adolphe Sax was a pupil of the Brussels' Conservatory and soon became an excellent flutist. He was taught to play the clarinet by Bender, conductor of a famous Belgian military band. At the age of fifteen, in 1830, he sent to the Brussels Industrial Exhibition two flutes and a clarinet made of ivory, that were considered extremely fine specimens. He was twenty when he invented the bass-clarinet. Such instruments already existed, but their sound was defective, and they were altogether unreliable. (a)

With Sax, the bass-clarinet became a standard part of the wood-



View of Dinant where Sax was born. To the left, the medieval citadel; to the right, the cathedral.

⁽a) This "primitive" bass-clarinet had been invented in 1802, in Lisieux (France) by Desfontenelles.

wind group. The incident that took place at the Brussels Grande Harmonic is perfectly characteristic of many similar happenings in the stormy career of Sax. A jealous artist, who played on the ancient bassclarinet, threatened to quit the orchestra if it adopted the instrument built by Sax. The young inventor, who was also an excellent performer, acted as did the Virgilian shepherds and the medieval troubadours: he challenged his antagonist to a musical duel; both played in turn and the result was a triumph for Sax and for his bass-clarinet. The famous French conductor Habeneck, during his stay in Belgium the same year, was delighted by the sound of the new instrument. And Jacques Fromental Halévy, the illustrious composer of La Juive, was profoundly interested in the young inventor's research. Although the center of his activity was still Brussels, Adolphe Sax became well known in the principal musical centers of Europe. But the young man dreamt of a Paris success, a Parisian consecration. When in 1841, the jury of the Belgian national exhibition refused to grant him a first prize, on the ground that he was too young and that no higher award could be given him later on, he decided to leave Brussels. He arrived in Paris a few mouths later, in 1842, with very little money and great ambitions. But his reputation among musicians was already solidly established. No better proof of this fact can be given than the following letter from Halévy, that he had received a few weeks before his arrival in the French capital: (1)

I take the opportunity of M. Vieuxtemps' stay in Paris and his imminent return to Brussels to ask you about the instruments that you had requested me to hear, and that you are now busy perfecting. I hope you will reach your aim. Your efforts should excite the interest of every composer. You enlarge the number and the power of orchestral effects. At the Paris Conservatory, we have already had the opportunity to try out your new and excellent combinations of tones. I hope you will speedily terminate the construction of your new instrumental group. It will be of great help to the poor composers seeking for innovations and to the public that demands them, even were there nothing new on earth.

Mille compliments.

th. Mille compliments, Halévy

The friendly tone of this letter, coming from a composer of Halévy's standing, and the fact that it was entrusted to the Belgian violinist Vieuxtemps, after Paganini, the most celebrated virtuoso in those days, is sufficient to show in what esteem Sax was held by the foremost musical personalities. All the same, he was very poor when he arrived in Paris in the spring of 1842.

In Paris, as one of his recent biographers, Albert Remy, puts it, a strange life began for Sax; a prodigious, tormented existence, darkened by dire experiences, and upheld with courage and fortitude. The young inventor—he was now twenty-eight—had to pay the ransom for his genial creativeness: he had to face the envy and jealousy, the wrath and hatred of his rivals and colleagues; he underwent all kinds of misery, suffering and affliction. Glory was to be his reward, later, much later, in the course of his long career. (2)

It is true that Sax was assailed by every kind of difficulty, that he

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was the victim of crooks and slanderers, of money-lenders, of jealous competitors, of venomous critics and mediocre musicians. It is also true that he was often deceived by the friends he had helped, and disavowed by those very protectors, who, like Habeneck, had been among the first to give praise and recognize him. In his tribulations, there was also a kind of fatality that dragged him into quarrels and conflicts, into lawsuits and polemics. Sax—like Beaumarchais in the 18th century, like Whistler in the later 19th century—had exceptional gifts for the gentle art of making enemies. It would be too easy to accuse fate: when during a long lifetime a man is constantly involved in the same kind of turmoil, the natural conclusion is that he is himself to be held responsible for most of his trouble. A disposition inherent to his held responsible for most of his trouble. A disposition inherent to his character led Sax to clash with his fellowmen. He sought strife and struggling and wrangling. And yet, he always found friends and admirers, partisans and even devotees. Berlioz, Meyerbeer, Rossini, King Louis-Philippe and Napoleon III were among his constant supporters. He triumphed over his enemies; he was honored with medals and decorations. And more than once, he won his lawsuits of which he was

And when he died in Paris, on February 4, 1894, several courts were at hand with decisions and appeals in his cases, that kept lawyers and jurists busy several decades after the inventor's death.

For all these reasons, we must take it for granted that Sax had to struggle all his life to defend his inventions and to protect himself against the "foolish tricks" of his enemies. And we will not follow Oscar Comettant, author of an extremely laudatory and voluminous work on Sax, in the description of the financial difficulties, the ferocious polemics the slanders, the menaces of bankruptcy, and the endless lawsuits that were Sax's lot: an undeniable consequence of his enemies' wickedness and perhaps also a result of his arrogance and difficult temper. The reader interested in such tribulations will find them described at length (at least for the period 1842-1860) in the book by Comettant.

During the spring of 1839, Adolphe Sax had made a short stay in Paris. It was at that time that he met Habeneck, Meyerbeer and Halevy, who all complimented him on his instruments. What instruments did the young inventor show to these masters? Certainly his bass-clarinet, his clarinets, and probably also some of his brass instruments. But evidently not the saxophone.

As Dr. Eugen Rosenkaimer puts it, the year 1846 is always given as the year of the saxophone's invention. This common error may arise from the fact that Adolphe Sax obtained the patent for his new instrument on June 28, 1846. (3) And Dr. Rosenkaimer goes on to prove that the saxophone was exhibited, demonstrated and played on several occasions during the year 1844.(4) We think Sax invented his instrument at a somewhat earlier date. The composer and theorist Georges Kastner in his book on Military Bands published in 1847, (5) relates the following anecdote: Sax had sent the saxophone to the Brussels exhibition in 1841. It lay wrapped up in green when somebody malevolently kicked the package, damaging the instrument so badly that it was impossible for Sax to exhibit it.

The story is far from clear and does not prove that Sax's new instrument really was the Saxophone. But we find a very accurate description of the saxophone—the very first one, we believe—in an article by Hector Berlioz, published on June 12, 1842, in the Paris Journal des Debats. At the same time, this article brings us the proof that Sax was already in Paris in the spring of 1842. All authors dealing with Sax and his inventions tell us that the inventor arrived in Paris by the end of that year, and that Berlioz some weeks later, wrote an encouraging article in the "Debats" that drew attention to the creativeness of the Belgian constructor. But, with one exception, it would seem none of them had read the article. Of course, it was never reprinted in any of Berlioz' books, and as Berlioz, during the following years, has often mentioned the name of Sax, some confusion may have arisen, and the famous article was never placed exactly in the mass of the great composer's columns (or feuilletons) in the Journal des Debats. However, it is mentioned in time and place in J. G. Prodhomme's Bibliographie Berliozienne (0), and about fifteen lines of it are quoted in Henri Radiguer's article (L'Orphéon) in Lavignac's Musical Encyclopedia. (1)

To us, the Berlioz article marks the turning point of Sax's career. Other well known musicians and famous composers had given him, each in particular, tokens of their esteem. Good words and kind letters poured on him. But now, for the first time, he received the Parisian consecration he had sought for. The *Journal des Débats* was the intellectual paper par excellence. Already, for five years, Berlioz had been its brilliant columnist. And he devoted to Sax the third part of his monthly article. This, for *Monsieur Sax*, de *Bruxelles* meant glory, or at least celebrity and recognition. From this day on, all informed persons in Paris, knew his name and something of his inventions.

Hector Berlioz was thirty-nine years old. His works were discussed and severely criticized by the more conservative musicians. But his authority as a critic and as a musicologist was fully recognized. His position in the Musical world could be compared to that of Robert Schumann at about the same period; or, to borrow a worthy example from our contemporary life, to that of Mr. Virgil Thomson nowadays in New York City.

Sax, newcomer in Paris, met Berlioz. And the Romantic vanguard master, always seeking new paths and aesthetic discoveries, was immediately struck by the young Belgian inventor's talent.

Between Berlioz and Sax, one could detect many resemblances in character and temper: the same qualities of enthusiasm, of romantic pathos, of combativity; the same defects also: both were quarrelsome, conceited and suspicious of their neighbors' intentions. The two men sympathized, and from the day of their first meeting, became friends.

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The Berlioz article of June 12, 1842 represents a crucial point in the life of Sax. As it is not found in the published works of Berlioz, and as it contains the birth-certificate of the saxophone, we have translated it for the convenience of our reader:

ADOLPHE SAX'S MUSICAL INSTRUMENTS

An abuse of musical instruments is made nowadays; they are employed indiscriminately, with no restraint or competence. Everybody knows the quality of the beantiful effects they can produce, and both the public and the musicians are fatally drawn to seek such effects and even to demand them from any new production. This art of instrumentation, as it developed, necessarily promoted and improved the construction of instruments. One can thus appreciate the immense progress realized, if one compares, for instance, the pianos of Erard and Pape, with the harpsichords of the last century; or the flute employed in the days of Devienne with the modern flute of Boclum; or the ancient clarinets with those constructed nowadays by Mr. Adolphe Sax, and the horrible and shapeless "serpent" used in our cathedrals with the magnificent and profound instrument recently invented by this young and talented craftsman.

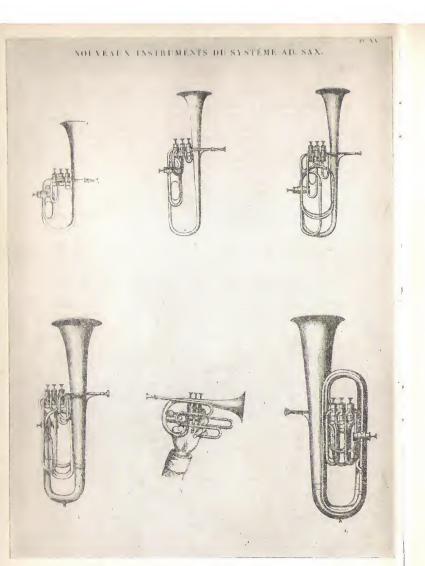
String instruments are far from having followed the same trend; none of the violin-makers of our time could be compared with the Amati, the Stradivarius of yore; this is inherent to the nature of their craft, that from the beginning attained a high degree of perfection. On the contrary, the making of brass and woodwind instruments had never left its state of infancy, but today it has taken a road that cannot fail to lead it towards splendid achievements.

A revolution is in the making and Monsieur Adolphe Sax, from Brussels, whose work we have just examined, strongly contributes to it. A man of lucid brain, farseeing, tenacious, steadfast and skilled beyond words, he is ever prepared to replace the workers incapable of understanding his projects or realizing them, whatever their specialties. He is a calculator, an acoustician, and when required, a smelter, a turner and, if needs be, at the same time an embosser. He can think and act. He invents and he accomplishes. Before describing his new instrument, let us mention the improvements that he has brought to the group of the clarinets.

By stretching somewhat towards the bell the tube of the soprano clarinet, he added to its compass a semitone in the lower scale, so that now, that clarinet can play the E flat. In the medium scale, the B flat, that had a wrong sound on the ancient clarinet, is one of the best notes of the new one. The trills from B flat to B natural or B flat to C in the medium scale, those from A to B in the lower scale, those from E to F sharp, the arpregios in octaves from F to F and many other impracticable passages, are from now on easily played and produce an excellent sound effect. It is a well known fact that the notes of the extreme acute compass were a nightmare for composers and performers, who rarely dared to use them, and then only with great caution. By fixing a small key under the clarinet monthpiece. Mr. Sax rendered these notes as pure, as soft and as easy to play as those of the medium. The B flat in alt, that nobody dared to write, can be played now without any preparation and with no effort on the part of the performer. It can be played pianissimo without the slightest danger and its sound is at least as soft as the same note on the flute.

If for any reason a clarinet were to remain for a few days without being played, or was in use for too long a time, dryness or lumidity rendered the wooden mouthpiece difficult to use. Mr. Sax. by giving the instrument a gilt mouthpiece that increases the brilliancy of its sound, has done away with these inconveniences. The metallic mouthpiece is not subject to change like the wooden one. This clarinet has a greater compass, is more equal in tone facility and precision than the ancient one; the fingering

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Saxhorus: one-twelfth actual size

remains unchanged, except for a few instances where it has been simplified

ADVECTED BAY AND THE BUSY DAY

The new bass-clarinet built by Mr. Sux has nothing but the name in common with the old one. In this new instrument, the holes have been abolished and replaced by keys adapted to the points corresponding to the core of the vibrations. The new bass-clarinet has twenty-two keys and is remarkable for its perfect tone accuracy and its uniform temperaments in all the degrees of the chromatic scale. Its greater diameter increases the volume of the sound, without preventing or hindering the performance of octaves and fifths. This advantage is due to a key drilled near the instruent's mouthpiece. Its compass is three octaves and a sixth. But there is something more important than this huge extension, for it is obvious that the bass-clarinet is not supposed to range among the upper register of the orchestra. It is for the beauty of its lower notes that we appreciate it so much. As the tube is a very long one, when the performer stands, the bell of the instrument is very close to the ground. Hence a very unpleasant dulling of the sound would have existed, had not the skillful craftsman prevented it by adding a concave metallic reflector fixed under the bell, that not only prevents the sound from being lost, but directs it in the proper direction, increasing its volume at the same time.

direction, increasing its volume at the same time.

The Saxophone (Le Saxophon), named after its inventor, is a brass instrument with nineteen keys, whose shape is rather similar to that of the ophicleide. Its mouthpiece, unlike that of most brass instruments, is similar to the mouthpiece of the bass-clarinet. Thus the Saxophone becomes the head of a new group, that of the brass instruments with reed. It has a compass of three octaves beginning from the lower B flat under the staff (bass clef); its fingering is akin to that of the flute or the second part of the clarinet. Its sound is of such rare quality that, to my knowledge, there is not a bass instrument in use nowadays that could be compared to the Saxophone. It is full, soft, vibrating, extremely powerful, and easy to lower in intensity. As far as I am concerned, I find it very superior to the lower tones of the ophicleide, in accuracy as well as in the solidity of the sound. But the character of such sound is absolutely new, and does not resemble any of the timbres heard up till now in our orchestras, with the sole exception of the bass-clariner's lower E and F. Owing to its reed, it can increase or diminish the intensity of its sounds. The notes of the higher compass vibrate so intensively that they may be applied with success to melodic expression. Naturally, this instrument will never be suitable for rapid passages, for complicated arpeggios; but the bass instruments are not destined to execute light evolutions. Instead of complaining, we must rejoice that it is impossible to misuse the Saxophone and thus to destroy its majestic nature by foreing it to render mere musical fullities.

The composers will be very indebted to Mr. Sax when his new instru-

The composers will be very indebted to Mr. Sax when his new instruments are generally employed. If he perseveres, he will meet with the support of all the friends of music."

The description given by Berlioz is that of the barytone-saxophone which he calls le Saxophon (instead of le Saxophone). It seems likely that the new group of instruments that he mentioned was not yet completed in the spring of 1842. And it is even possible that Sax later built the alto, tenor and soprano saxophones in response to Berlioz remark concerning the impossibility of playing rapid passages and complicated arpeggios on a saxophone. In later years, Sax decided to reduce by seven semitones the compass of his saxophones, because of the unsettisfactory sopority of the higher notes. the unsatisfactory sonority of the higher notes.

Shortly after the publication of the Berlioz article, Sax had great success at the *Conservatoire*, when he demonstrated his instruments and played some of them in the presence of such musicians as Auber,

Halévy, Habeneck, Ed. Mounais, who all praised him greatly.

Sax now established his workshop in Paris. In a brokendown shed of No. 10 Rue Saint-Georges, he set to work, and his method of working was a new cause of scandal and protest to the people of the trade, because he wanted to see every part of each instrument built mider his own eyes, and not, as it had been the custom, by specialized craftsmen, each of them working on his own and bringing a piece ready to be adjusted to the whole,

Advocating the use of rotary valves instead of pistons, he shocked and displeased both constructors and musicians who were accustomed to and displeased both constructors and musicians who were accustomed to the piston system. However, he found a powerful protector in the person of General de Rumigny, King Louis-Philippe's aide-de-camp, who had met him in Brussels where his brother, the marquis de Rumigny, was the French Minister to the Belgian Court. General de Rumigny gave our inventor invaluable material and moral help and his protection extended through many years.

On the 17th and 21st of June 1843, Sax was granted his first two French patents. But the more recognition he received, the more was he made the target of his competitors' attacks and slanders.

During the Spring of 1843, Berlioz was traveling in Germany. His Voyage Musical en Allemagne was to appear in a series of eleven articles in the Journal des Débats (August 1843 — January 1844). Of course the composer was back in Paris when the articles were published. He was aware of Sax's troubles and, in nearly every article, he tried to help and encourage his friend. It is interesting to quote these passages: they bring light on the dire struggle Sax had to sustain in the early days of his Paris establishment.

August 20, 1843 — Stuttgart —

The horns with cylinders (or chromatic) are the only ones used in Stuttgart. The skilled constructor Adolphe Sax, who has established himself in Paris, has abundantly demonstrated the superiority of this system over the piston system, practically abandoned in the whole of Germany, where cylinders are generally applied to horns, trumpets, bombardons and bass-tubas.

September 12, 1843 - Dresden -

The military band is excellent; even the drummers are real musicians; but the reed instruments that I heard did not seem to me entirely satisfactory: they are lacking in accuracy, and the band conductors of these regiments ought to ask our incomparable constructor Λ dolphe Sax for some of his clarinets.

October 8, 1843 — Berlin —

As a matter of fact, in France, we are not lacking in instruments with cylinders; Adolphe Sax is at present constructing large and small trumpets with cylinders, in every possible tonality, the average as well as the unusual ones, and their sonority and perfection are beyond reproach. It is really unbelievable that this young and gifted artist should meet with such hardships in his efforts to gain recognition and to find his place in Paris. He is persecuted in a way that would seem to belong to the dark



" A Concert with guns and Berlioz. Fortunately the hall is solidly built . . . it resists.'

nges, recalling to mind the proceedings employed by the enemies of Benvennto (Gellint), the Florentine curver. His workmen are entired away from him, his plans are stolen, he is accused of heing insane, lawsuits are set up against him. A little more and he would be murdered. Such is the hatred stirred against real inventors by their competitors, incapable of inventing anything, Luckily for him, the skilled inventor his breac constantly homored by the protection and friendship of General & Runigay. This has enabled him up to now, to resist in the desperate struggle. But will it always suffice? . . . The War Minister should give a man so useful in his rare specialty a position worthy of his talent, his tenacity and his efforts. Our military hands have not as yet trumpets with eylinders nor bass-tubas the finest of the bass instruments). The construction on a large scale of the said instruments will become imperative to put the French military bands on the level of those of Prussia and Austria, A commission from the War Department to Mr. Sax for three hundred trumpets and a hundred bass-tubas would save the inventor.

November 8, 1843 -- Berlin --

The bass-tuba, invented and advocated in Prussia by Wieprecht (sic), is also manufactured in Paris now by Adolphe Sax.(a)

While Berlioz was defending his friend so efficiently, Sax met with a new ordeal: at the height of his fame, Donizetti, in the score of his opera Dom Sébastien, presented at the Opera in November 1843, had written a part for the bass-clarinet. The rehearsals began, but no musician would agree to play on Sax's bass-clarinet. Donizetti was desperate. Sax proposed to play the instrument himself in the orchestra. But all the other musicians protested. "If Mr. Sax sets foot in the or-chestra," they said, "we shall all walk out". The composer had to give in. He dropped the bass-clarinet part from the score.

The visit Rossini paid to Sax's workshop must have taken place during the first weeks of 1844. The cheerful exclamation of the great master on his first encounter with the saxophone must have brought some comfort to the harassed inventor. Some time later, Rossini had the Sax instruments adopted by the Conservatory of Bologna. And he sent his personal friend, the clarinet player and teacher Liverani, to Paris with a letter for Sax.

But it is Berlioz once more whom we meet as the obstinate and faithful supporter of the Belgian inventor.

In the concert of his own works that Berlioz conducted at the Salle Herz, on February 3, 1884, the program contained two first performances: the Carnaval Romain Overture, and a transcription, "for new instruments of Sax" of a vocal hymn for six different voices, that had been already sung in Marseilles.

As far as I know, this transcription has never been published. I have not been able to retrace the date or the program of the Marseilles' concert. However, it seems likely that the vocal piece utilized for the transcription was one of the *Tristia* (op. 18) composed in 1831, most





Members of the Distin family, who helped to propagate Sax' instruments.

probably No. 1, a "religious meditation" for a six part choir, with words translated into French prose from a poem by Thomas Moore.

The six "new instruments" were: a high trumpet in B flat, a "new kind of horn", a bugle, a clarinet, a bass-clarinet, and finally a saxophone played by Sax himself.

We know that the inventor was busy until the last moment building and improving his saxophone; he went to the performance with an instrument hastily arranged, some parts of it fixed with string and sealing wax.

The concert, if not a material success, was a moral victory for Sax. And the next day, Théophile Gautier wrote in "La Presse" how highly impressed he had been by the effect of the loud and magnificent sonority.

Sax, in spite of his bold and quarrelsome temper, had an uncommon sense for public relations and even for showmanship. In these same months of 1844, he began to invite musical, literary and social personalities to visit his workshop. On each of these occasions, he improvised a concert and the new born instruments were heard.

When Auber, the glorious composer of La Muette de Portici, (the opera containing the famous air "Amour sacré de la patrie" which had been the signal of the Belgian Revolution when it was performed in Brussels on September 21, 1830) heard the saxophone for the first time, he could not hide his enthusiasm: "What a lovely tone," he said, "and what advantage could be derived from this instrument combined with the human voice". (8)

His overwhelming difficulties did not prevent Sax from being ever ready to help his fellow artists. During that scason of 1344, a man named Distin, who was the father of four sons, all playing brass instruments, arrived in Paris from his native England, and gave a disastrous performance that was hissed by the public and vilified by the critics. The Distins sought out Sax, who comforted them, gave them new instruments of his own making, taught them the use of his saxhorns, and when on April 6, 1844, Berlioz conducted his second concert at the Opéra Comique, the five Distins had a real triumph, when they played on their saxhorns (soprano, alto, barytone, bass and counterbass), a fantasy on Robert le Diable. From this day on, their luck changed. They had many engagements in France and in England, where they became also commercial agents for Sax. In later years, one of the younger brothers, Henry, came to America and founded in Philadelphia a factory for the manufacture of brass instruments.

On the lithograph made after a drawing by the Belgian painter Beaugniet, and reproduced in an article of the English Music Review, the Distin family appears with its "saxhorns". Curiously enough, four of these "saxhorns" take the shape of trumpets, the fifth being a Viennese flügelhorn. The author of the article, Adam Carse, explains this strange fact by saying "that Sax designed his saxhorns in at least

two models in their first few years." (9)

The saxophone was shown for the first time at the Paris Industrial Exhibition during the summer of 1844. Most probably at the suggestion of his aide-de-camp, General de Rumigny, King Louis-Philippe, together with Queen Marie-Amélie and two of their sons, stayed a long time in front of the inventor's stand. The Distins were all present at Sax's side. And they improvised together a little concert in honor of the royal visitors who expressed their great satisfaction and invited the whole group to play at court.

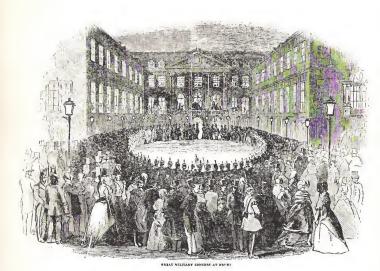
The following December, the saxophone made its debut in the orchestra. George Kastner (1802-1872), an excellent musicologist and philosopher, although a rather poor composer, tells us in his book, already mentioned, on military bands: "The first saxophone constructed belonged to the bass compass. I was the first to make use of it in the score of my grand opera *The Last King of Juda*, performed at the Paris Conservatory on December 1, 1844." (10)

The year 1845 was to be decisive in the life of Sax, now 31. We have already said that there was no ending to the inventor's struggles and quarrels. But during that year, he won his greatest battles and gained the necessary strength to resist further attacks. The principal accusation was that he was by no means an inventor and that he just designed instruments that already existed abroad. But his detractors could never — in spite of their incessant efforts — exhibit an instrument that could have served as a model for the so-called counterfeit by Sax. All sorts of tricks were employed against the poor inventor, one of them consisting in sending to Germany a Sax instrument, and having it returned to Paris after the name of the Belgian constructor had been carefully erased. When this plot failed, Sax's enemies had recourse to a more psychological contrivance: they decided to stir up the nationalistic feelings of some German constructors in order to confound Sax and ruin him.

No dispute was possible in the case of the bass-clarinet. We have already seen with what enthusiasm such prominent musical personalities as Halévy, Fétis and Berlioz—who all knew what was happening in the European musical world—had saluted Sax's new instrument, "that had only the name in common with the ancient one." But when Sax gave his name to the group of the saxhorns, the Germans protested vehemently.

Wilhelm Wieprecht, the famous Musikdirektor of the German Confederation 10th Army Corps, felt it was his duty "to defend the name and honor" of the German inventors Stölzel and Blühmel. "For many years now," writes August Kalkbrennar, Wieprecht's biographer, "brass instruments with rotary valves (ventil-Blechinstrumenten) have been in use in German bands. And Sax had no right to claim the invention as his own." (11)

Now Sax never made such a claim. Everybody knew that bugles



This wood engraving from the Illustrated London News, September 1845, represents the serenade given Queen Victoria by the German military band under Wieprecht's direction.

courteously he invited both Liszt and myself to assist at this interesting challenge.

The Prussian musicians began. Than Sax and Arban in their turn played on the saxhorns and the clarinet. I shall never forget the envious and covetous looks that those men cast on the new instruments. Surrounding their leader, all talking at the same time, they seemed to say: 'If we would have had such working-stock, what a serenade we could have given the Queen of England!'

As to Mr. Wieprecht, he could not hide his enthusiasm. Embracing his rival, he vowed he would come to see Sax in his Paris workshop to make aniends.

Upon this I said to Liszt: 'I thought you told me Sax and Wieprecht were not on good terms. And now you see the *Tuba* and the Saxophone going off arm in arm.'

Liszt smiled and answered: 'I fear they won't remain in tune (d'accord) very long.'

I said no more. Franz Liszt had made a pun." $^{(13)}$

Sax won the day. Not only the day, but we may say, the century. The short-lived $Batyphon_s$ (a) in spite of its beautiful Greek name, emitted a series of squeaking noises, while the saxophone went on slowly and surely to conquer its place in the field of music. This victory was shared by the saxhorns. Up to the present, they have retained their name of SAXhorn, even in Germany.

That same year, 1845, Sax was the hero of another important contest that definitely set him on his feet in Paris.

The military bands in France had been in a pitiful state for years. Musicians were badly trained, badly paid; there was little or no consideration for them in the army and their leaders had not even the rank of petty officer. Moreover, their instruments were bad and inadequately grouped. It is quite natural that Sax, disposing of such perfect and appropriate working-stock, should have wished to remedy this state of affairs, and to secure at the same time regular and frequent orders for his workshop.

But the enterprise was far from being an easy one. None of the musical, industrial and military routines were favorable to his plans, the more so as he was a foreigner. Nevertheless he set to work by the end of 1844 and, for eight months, he struggled hard till he finally won his cause. He sent a long memoir to the War Minister. Marshal Soult, a survivor of the Napoleonic régime. In it he analyzed and criticized the composition of military bands. Some of their

⁽a) The failure of the Batyphon was so complete, that one must go nowadays as far as the Museum of Copenhagen (Denmark) to find a preserved specimen of that extinct monster.



M. Armand Marrast (President of the French Chamber of Deputies) forced to replace his little bell by an instrument of Sax.

Cartoon in Le Charivari. October 22, 1848.

with cylinders were built in Germany, but the instruments conceived by Adolphe Sax were different and also better. As we have seen, Berlioz repeatedly stated in his "Foyage Musical", both that brasses with cylinders were used in Germany and that Sax constructed instruments in Paris that were as good or even better. Nevertheless, Wieprecht, an excellent musician and himself the inventor of the bass-tuba, decided to go to Paris to avenge the German honor. But a strange and surprising thing happened.

In this peaceful summer of 1845, great musical celebrations took place on the banks of the Rhine. Prominent musicians convened from all parts of Europe in Bonn, where the statue of Beethoven was unveiled in the presence of the Prussian Royal family, Queen Victoria and Prince Albert, as well as several other members of the royalty and a great number of dignitaries, academic, literary and artistic. Meyerbeer and Liszt were the most famous of the German musicians present (as a matter of fact, neither of the two was a "real" German but, in those days, discrimination was as yet unknown). Among the French visitors were Jules Janin, the editor of the Journal des Débats, with his musical critic Berlioz, the director of the Lyons Conservatory and Madame Viardot-Garcia, the famous singer.

Many ceremonies, both musical and oratorical, were organized to honor Beethoven who had died in Vienna, eighteen years earlier, in poverty and loneliness. There was a Cantata specially composed by Spohr. There was a splendid reception at the castle of Brühl, where the bands of the Prussian army, conducted by Wieprecht, came to serenade the British Queen. On the esplanade, twelve hundred soldiers bearing torches displayed a huge square of light, whilst other torchbearers were disposed inside the square, so as to form an immense V, for Victoria. Between the branches of this V, the bands conducted by Wieprecht gave a concert. The trumpets alone amounted to twelve hundred, the drums to three hundred.

A few days later, all the distinguished guests gathered in Coblenz, to assist at a court concert at which Jenny Lind, the Swedish nightingale, was heard. On the very morning of this concert, a strange scene took place in Liszt's apartment at the Coblenz hotel. The genial Hungarian was in his room with several friends when Wieprecht was announced. Liszt gave a sharp knock on the wall and Sax immediately left his room and appeared upon the scene. We have two versions of what followed: one given by Wieprecht, the other by Fiorentino, the correspondent of the Paris Constitutionnel.

I think that the best I can do is to translate briefly the German text of Wieprecht and the French text of Fiorentino.

"When I entered the room," writes Wieprecht, "Liszt took me in his arms and clasped my hand in the real German manner. His first words were: "Wieprecht, Sax has just arrived.' Whereupon he introduced me to him. Besides Liszt, there were Lefebre from Cologne, the Musik-director Knipfer from Coblenz and a Frenchman whose name I did

not know. It seemed that we had nothing better to do than to compare our respective instruments, and let the audience decide.

Mr. Sax had brought with him a talented young cornet player Mr. Arban, a pupil of the Paris Conservatory."

Wieprecht then proceeds to enumerate the saxhorns and cornets shown by Sax, and their — according to him — German counterparts and equivalents. He goes on to praise the virtuosity of Sax and Arban. He cannot but acknowledge the originality of the bass-clarinet, remarking the while that for military bands its bulk would constitute a serious impediment beim marschieren, during a military parade. He describes at length the Batyphon, an instrument which he had invented some years ago, together with the Hof-Instrumentenmacher Skorra. Although the saxophone is not to be seen, Wieprecht contends that it is merely an elaboration of his own Batyphon. He ends up by hypocritical compliments with which he endeavors to envelop a perfidious distinguo between improvement and invention.

"Let us hope that Mr. Sax will not weaken the eminent services he has rendered to the cause of art, by a petty amour-propre which would incite him to claim as an invention what is merely an improvement (zu verwechseln was Erfinden und was Verbessern ist). After having met Mr. Sax at Coblenz, I have changed my plan about going to Paris . . . "(12)

This is now Fiorentino's version of what took place:

- ". . . the two antagonists advanced toward each other smilingly holding their hands. After a moment, I heard Sax say:
 - -Really, do you know anything about my instruments?
 - -I know everything, answered Mr. Wieprecht modestly.
 - -The saxophone also?
 - —Ja wohl.
 - -And my bass-clarinet?
 - —Ja.
 - —And could you play on it?
 - —Ја.

Sax went to fetch his clarinet and handed it to Wieprecht. The latter took hold of it gingerly, like a recruit grasping a rifle by the butt. Then he did his best to sound a few notes. After two or three unsuccessful attempts, he was obliged to concede that he knew nothing about the clarinet, less about the saxhorn; as for the saxophone, that was a complete mystery. He frankly acknowledged the facts and apologized profusely. He ended by inviting Sax to come and hear the Prussian instruments in a large hall nearby, and asked him to try out his own instruments in the presence of a few military musicians. And very



A group of composers of the 19th century. In the middle, Carafa, mounted on a wooden horse.

He competed with Sax and was defeated by him. —J. Travies: Panthéon musical.

fought between Les Savons and Les Carajons." After describing in military style the successive phases of the battle, the CHARIVARI ended by showing the vanquished Carajons, flushing through the field to collect their dead, "pour ramasser leurs cors morts," making a doubtful pun on corps (corpse) and cors (horns).

In order to get a less fanciful approach to that memorable "battle" and to allow musicians to understand the true nature of the reorganization advocated by Sax, it is interesting to compare the composition of the two bands, as it was originally planned by their leaders. It was slightly modified, due to various contingencies, on the day of the Champ-de-Mars performance.

CARAFA	SAX
1 piccolo	1 piccolo
1 small clarinet	1 small clarinet
2 clarinets solo	6 clarinets
7 first clarinets	1 bass-clarinet
7 second clarinets	2 valved cornets
4 oboes	4 saxhorns in B flat
4 bassoons	4 saxhorns in E flat (alto)
2 french horns	4 saxhorns in B flat (bass)
2 valved horns	3 saxhorns in E flat (counterbass)
2 valved cornets	2 trombones
3 trombones	2 trombones with cylinders
4 ophicleides	2 ophicleides with keys
4 percussion	4 percussion

Total: 45 instruments. Total: 38 instruments.

The normal consequences of Sax's victory should have been the immediate approval of his plan by the Ministry of War. But several months were to elapse before the official publication of the decree confirming his success.

Meanwhile, Sax was to undergo another ordeal. His enemies, far from being cast down by their Champ-de-Mars disaster, founded an association, regularly constituted, with a president, a secretary, periodical contributions and a legal residence at 11, Rue Serpente, Paris. Moreover, the lawsuits against him were multiplying. His rivals' aim was to prove that he was by no means an inventor, and that the patents granted to him should be nullified. When he asked for a new patent for the saxophone, they all claimed that it was no new invention and that it had been known in Germany for many years. Sax wanted to give them a fair deal. He offered his calumniators one whole year, saying that if they could bring him the equivalent of a saxophone, at any time during these twelve months, he would agree to renounce his patent.

It is more than likely that it was in order to investigate the matter more closely, that Sax accompanied Berlioz, as we have seen, to the Beethoven celebration, at the end of August 1845.

ADOLPHE SAX AND HIS SAXOPHONE

instruments, he wrote, especially the horns and the basseons were not fitted for open-air performances. The sounds of the musical units were lacking in homogeneity; the high pitched piecolo and the clarinets gave out squeaky sounds, whilst the ophicleides snorted and shouted. And most of the intermediary instruments were squeezed between these two extremes and their sound could hardly be perceived. Sax proposed to make a large use of his bugles with valves, or saxhorns. And he insisted upon the advantage that it would be to employ a group of instruments of the same family, which would permit the melodic line to pass smoothly from one instrument to another, as it does in the string quartet, or as it passes from one voice to another in a well trained choir.

The reform advocated by Sax was a radical one. Musicians, instrument makers, band leaders, and military brass-hats were indignant. That Belgian charlatan overrated his capacities: he even dared to intrude into the holy precinct of the French Army, insisting that the conductors of military bands should henceforth become ranking officers. But Sax had powerful protectors. There had been too much talk about his inventions. It was impossible to shelve his memoir and dismiss him lightly. So the Government named a Commission.

The members, who had their first meeting in February 1845, had been chosen among France's foremost composers: Spontini, Auber, Halévy, Adam, Onslow, Carafa and Kastner. Experts on acoustics and mechanics, all from the army, had been added to the group of musicians. General de Rumigny was to be president, with Georges Kastner as acting secretary.

Among the persons named, we recognize several friends and supporters of Sax, as well as his bitter opponent, Carafa, who enjoyed, in those days, a great reputation as a composer and, besides, was the director of the Gymnase de Musique Militaire where most musicians of the army came from.

Sax himself had been offered a seat in the Commission. However, he declined the proposition, thinking he could not act as judge and defendant at the same time.

Meanwhile, Carafa had submitted to the Ministry of War a project of his own, which did not bring noticeable changes in the composition of the bands. The Commission had now to make a choice between Carafa and Sax.

A first experiment, which was held in the Ministry of War, brought about no definite results. Sax was accompanied by a group of nine musicians, whereas Carafa's orchestra was composed of thirty-two performers.

The Commission took a wise resolution: that of having the two systems tried in their natural surroundings, the open air, and of calling the whole population to decide between the two rivals. The

place chosen for the challenge was the Champ-de-Mars—today a group of beautiful gardens surrounding the Eiffel Tower but, in 1845, a wide drill ground bordering the Ecole Militaire.

It was decided that each group should perform in turn a piece chosen by the jury, followed by one of their own choice. The compulsory piece was an as yet unpublished excerpt from Le Diable à Quatre, a ballet by Adolphe Adam, himself a member of the Commission. Destiny played him a strange trick: of all the operas, opérascomiques, and other pretentious works composed by Adolphe Adam,—a very highly considered musician during his lifetime—the only page that has survived is his cheerful French Cancan, still very often performed by all European and American bands.

When the date and the conditions of the musical duel were fixed, both sides went into a fever of excitement, recruiting partisans and supporters. No wonder that Berlioz immediately ranged himself on the side of his friend. He wrote a long article on "The Reorganization of Military Bands," that was published in the Journal des Débats on April 1, 1845; an article never reprinted in his books. But it is not as original as the one written the preceding year. To help the cause of Sax. Berlioz made his own most of the inventor's statements: bassoons, ohoes and horns were to be discarded from the bands which should only make use of long-ranging instruments (à longue portée). After describing the saxhorns, he also attempts to vindicate Sax on the count of the Tuba, an undeniable German invention.—"He brought the Tuba from Berlin," write Berlioz, "and improved it by modifying is mechanism in order to give it a little more extent in the lower notes of its compass."—The composer goes on to anticipate the result of the Champ-de-Mars challenge: if anyone proposes an organization of the bands superior to the one advocated by Sax, may he be the winner.

The 22nd of April was a lovely, sunny spring day. More than twenty thousand Parisians had gathered at noon on the Champ-de-Mars. The two "hostile" groups stood in a single line, one next to the other. In front of them stood the members of the Commission, Carafa was leading his own band. Sax had passed the baton to his friend Fessy, Seven of his men did not turn up, perhaps led astray by the "enemy." And Sax himself was late. At last he appeared, carrying two instruments on which he intended to play alternately, thus replacing two of the missing musicians.

After the first part of the concert, there was no hesitation whatsoever on the part of the audience. The members of the Commission both civilians and military, musicians and laymen, and the thousands of Parisians that crowded the field agreed: the band of Sax was by far superior to that of Carafa. The test had proved what theoretical discussions could but anticipate and deduce. Sax's victory was overwhelming. The sensation in Paris was enormous. For several days, Sax was the talk of the town. The humoristic weekly LE CHARIVARI (the model and precursor of the London PUNCH) printed "A modern Bulletin to be added to those of Napoleon's Great Army, on the battle

ADOLPHE SAX AND HIS SAXOPHONE

On the 9th of August, the decree on the reorganization of Military Bands was printed in the MONITEUR DE L'ARMÉE.

The enemies of Sax have all been dead for a long time, but the enemies of his saxophone are very much alive. They will be delighted to know that, during one of the lawsuits against Sax in 1845, a distinguished French jurist, Maître Marie, acting as counselor for the Association of the United Instrument Makers, made a statement in court, according to which, "the saxophone had never existed, could not possibly exist, and was to be considered as a mere quack's trick (acte de charlatanisme) on the part of Sax."

Nevertheless, on June 22, 1846, the patent for the construction of the saxophone—that nonexistent, mythical invention—was granted to Adolphe Sax.

From then on, the inventor and his instruments were recognized and could pursue their voyage in the world. For nearly half a century more, Sax continued to struggle against ruthless opponents, to defend his inventions, his position, his honor. He fought his fight with alternatives of success and defeat. We will simply record the principal events of his career, after his most important inventions had been realized.

It was in 1846 that the new organization of military bands began to show results. On July 26, a military festival took place at the Franconi Hippodrome, a kind of arena with an open roof, where 1800 musicians performed a very eclectic program in front of a brilliant audience presided over by the duke of Montpensier.

Kastner has left us a vivid description of this unusual festival, that most probably would shock a modern concert-goer who, if he could condone "the great phantasy on Spontini's Fernand Cortez," could not admit Fessy's arrangement of Gluck's chorus from Armida for this huge crowd of wind instruments and percussion. But the hit of the concert, according to Kastner, was the Berlioz transcription "for Sax instruments" of the Apothéose from the Symphonie Funèbre et Triomphale, "an audacious conception begot by power and genius; no other work could have better crowned such a splendid festival." It was a real triumph for Sax. And Fillustration reviewed it very favorably, stating that "the major advantage of Sax's system consists in the unity achieved by the brass instruments in the whole compass." Berlioz himself declared in his feuilleton (July 29) that this immense gathering created an image of what "les fêtes antiques" (Greek and Roman celebrations) might have been.

The progress of the Saxophone can be followed in Berlioz' column: on February 14, 1847, he announces that the "teaching of this precious instrument has begun at the *Gymnase Musical*." Meanwhile Sax had opened a small concert hall with no more than 400 seats. It was badly needed in Paris, comments the composer. On October 12, he announces that first and second prizes were awarded by the *Gymnase*



"The musician for whom Mr. Sax has manufactured his new trumpet."

Cartoon in Le Charviari, October 21, 1855.

to five students of the Saxophone class. History has not brought down to us the names of these pioneers, the first ones to employ this new means of tormenting their neighbors.

Next we come to a resolute admirer of the saxophone, the French King in person. — "The band of the 45th Infantry regiment played recently in Neuilly during the King's dinner. His Majesty was very taken by the charm of an instrument, the sound of which was absolutely unknown to him. It was the Saxophone, recently introduced into the band. The King desiring to hear it again, asked the musicians to perform once more the piece in which the fine instrument played a solo."

However, reverses soon follow triumphs in Sax's career. Louis-Philippe was dethroned in February 1848. The Republic, headed by Lamartine, for some reason or other, did not like Sax and on March 21, proclaimed a "Counter-Reformation" of the bands. The decree of 1845 was revoked.

The next year, at the Industrial Exhibition, Sax won the gold medal. Two years later, he was granted the *Grande Médaille d'Honneur* at the International Exhibition (1851).

Meyerbeer's Le Prophète had opened in Paris in April, 1849. Pauline Viardot sang the only woman's role of the opera, and the Rédowa of the Skaters was danced and directed by the illustrious Petipa. Berlioz pays a tribute to those celebrities, ending his article thus: "I must add a word of praise for the bass-clarinet, that plays a wonderful part in several episodes of the last two acts. This marvelous instrument was manufactured in the workshop of Sax."

Meyerbeer wrote a long letter to our inventor, deploring the fact that he had not been acquainted with the saxophone early enough to write a part for it in his score.

With the reign of Napoleon III, Sax returned to favor with the Government. The military bands once more adopted his instruments, that now were known all over the world. In the summer of 1849, the Distin family toured the United States with their Saxhorns. (14) In the Spring of 1851, a Monsieur Soualle, after giving saxophone concerts in London, came back to Paris and appeared in several musical evenings given by fashionable hostesses. Later on the same year, Sax published his Saxhorn Method. Meanwhile he was creating new instruments and completing the "families" of the groups he had already built up.

On one occasion, Napoleon III saved him from bankruptcy. In 1857, Sax made six silver trumpets for the Cent Gardes, the emperor's guard of honor. One year later, he was appointed "Imperial Instrument-maker" (facteur de la maison militaire de l' Empereur). He became

director of the stage music of the Opera, and a suxophone class was created at the Paris Conservatory, under his personal direction. He taught there for thirteen years. After the disasters of 1870, the French Government suppressed this class. It was re-established at the end of the century.

Thus, making new inventions and defending them against sarcasm and slanders, always on the verge of ruin, and always winning his lawsuits and receiving the highest awards in all exhibitions, Sax lived to the age of eighty. During his last years, he was very poor and lived on a modest pension that was donated to him by the French Covernment, at the request of Henry Roujon, the director of the Fine Arts Department.

A strange man. And a character.

His instruments outlive his fame.

SAXIANA

As a child, Adolphe Sax was the victim of a series of mishaps, each of which might have cost him his life. Tumbling down the stairs, swallowing a needle, falling on a burning stove, drinking vitriol instead of milk and, finally, being seriously hurt by a heavy brick which fell on his forehead . . . He survived all these accidents and was known after as "the ghost-child from Dinant." (15)

In his maturity, he overcame a disease that, even nowadays, is rarely cured. He developed a malignant tumor on the upper lip, and the faculty made a diagnosis of a Melanic Cancer. The doctors declared him incurable, and would not hear of an operation, deeming the state of the patient desperate. Sax discovered some kind of a quack doctor, who cured him—so the story runs—by means of certain herbs from India. The tumor began to diminish and, after a certain time, completely disappeared. Sax publicized as much as he could the wonderful treatment. The faculty was scandalized and began a regular persecution against Dr. Vriès, seeking in vain to prevent him from practicing. Sax upheld and defended the "miraculous treatment," in the same way he did for his own inventions. He gave testimonies, wrote articles, and went so far as to organize banquets in honor of Dr. Vriès. This happened in 1858. Sax was 44 and he lived 38 years more without any recurrence of the terrible disease. (16)

We know very little about his family life. When his father became too old to run his own workshop, he left Brussels and came to stay in Paris, where he died in 1865.

I could not find out where, when and to whom Adolphe Sax was married. It is certain, however, that he was not a very young



"Pardon me, Sir, may one visit the interior of this establishment?"

Cartoon in Le Journal Amusant, 1855.

man at the time of his marriage. On February 14, 1847, Berlioz wrote that one of the arguments employed against Sax by his enemies, was that he was a bachelor and a Belgian (il était garçon et Belge), while they were all heads of families and French (pères de Jamille et Français). So that the name of Adolphe Sax, Junior, which appears on a pamphlet published in 1865 on the "Gymnastic of the lungs," could only be that of one of his surviving brothers.

That he had children is sure. We know that his son Charles succeeded him in the early eighties as a stage music conductor at the Paris Opera. Charles also continued to direct the house founded by his father for many years after the inventor's death in 1894.

In February 1847, Berlioz was preparing for his tour to Russia. He was penniless and had to borrow the necessary money for his traveling expenses from several friends. In his Mémoires (end of Ch. LIV), he writes: "Sax, in spite of his personal difficulties, managed to lend me twelve hundred francs"—Twelve hundred francs in 1847: the equivalent of fifteen hundred dollars, one century later!

This ill-tempered and embittered man was a sincere philanthropist. He believed in human virtue and in the redemption of the wicked. When surrounded by dishonest artisans trying to steal his plans and sabotage his production, he conceived the idea of creating a workshop in the Central Prison of Melun, near Paris. The authorities favored his project and for quite a time, he was teaching burglars and convicts the art of making brass instruments, thus permitting these human wrecks to earn a little money, which would enable them to make a new start in life upon their liberation. Everything worked perfectly while the "workmen" remained in prison. But when some of them were freed, they came to Sax, tried to get money from him, made an attempt to blackmail him, and one day invaded his Paris workshop, arranging a regular holdup which Sax bravely resisted. So he did not find more satisfaction in the behavior of the bad boys than he did in the conduct of his more respectable fellowmen. From then on, he gave up seeking cooperators among the prisoners. (17)

With all the enemies he had to fight, he was capable of befriending those who had shown an interest in his work. He had borrowed two thousand francs from the Rothschild Bank and, one fine day, was able to repay the sum. He called on Baron James de Rothschild who insisted that Sax would be introduced in the dining-room where he was seated at table together with his brother Anthony, who had just arrived from London. The Baron invited him to sit down at the table, and offered him first a fillet of truite saumonée, then a chicken-breast and finally a beautiful peach from his hot-house. Sax declined each dainty in turn.—"So you won't accept anything from me," said Baron James, rather disappointed.—"Oh yes," replied Sax jokingly, "I would accept a share of the Compagnie du Nord" (in those days, there was a great rush of subscribers to the issue of the French Northern Railway, whose principal shareholders were members of the Rothschild family). Baron James smiled and rang a bell. When his private secretary appeared,

he ordered him to prepare a share-certificate for seven fully liberated shares in the name of Adolphe Sax, at the same time, canceling his previous debt to the Bank. A few days later, he invited our inventor to spend the week-end at Ferrière, his chateau, where a shooting-party had been organized. Besides the host and his son Alphonse, the guests were Atou, a personal friend of King Lonis-Philippe, the painter Gudin and an unidentified Italian prince. Sax had a wonderful time. (18)

In his quality of director of the stage music at the Opera, Sax was kept very busy by the period's répertoire. There was hardly an opera without a triumphal march, a sovereign preceded on the stage by heralds blowing trumpets or horns. From La Juive and Le Prophète, to the ultra modern Aïda and Faust, a great deal depended upon the stage musicians, and Sax's conducting was flawless. But when Tannhaüser was performed and failed in 1861, Richard Wagner wanted to blame everybody including Sax! Describing in "Aus meinem Leben" all the setbacks and handicaps that overwhelmed him, he writes:

"For instance, it was impossible in the whole of Paris to find the twelve French horns which in Dresden had so bravely sounded the lunting call in the first act. In connection with this matter, I had to deal with the terrible man Sax, the celebrated instrument-maker. He had to help me out with all kinds of substitutes in the shape of sax-ophones and saxhorns; moreover, he was officially appointed to conduct the music behind the scenes. It was an impossibility to get this music properly played." (19)

As it often happens with Romantic genius, there was—it is undeniable — some charlatanism in Sax's imagination. But it was ingenuous, rather innocent and, in a certain way, perfectly sincere. His continual boasting about incredible inventions seems close to megalomania. The simple explanation may be found in the defense-complex of a hunted man, of a talent lacking recognition.

On June 13, 1841, the following notice (sent from Brussels) appeared in the Revue et Gazette Musicale de Paris: "M. Sax, Junior, has just invented a steam organ which can be heard throughout a whole province. It is an instrument operated by vibrating blades, submitted to a pressure of four or five atmospheres. The blades are really huge steel bars vibrating under high pressure. This monster organ is destined to enliven popular festivals and railway inaugurations. The grandiose instrument may be placed on a railway truck in front of the engine, from which it would receive steam and power to activate the cylinders inscribed with notes. Such an organ would obliterate the noise of the engine and wheels, and eclipse even thunder."

A few years later, Sax was once more lost in the clouds of his phantasy. And this time Berlioz, seduced by the Romantic vision, "sponsors" the crazy imagination of a pre-radio inventor, writing: "Sax is dreaming of a steam organ of antediluvian proportions, that would sing from the top of the highest towers the joys and the sorrows of a metropolis, immersing the whole populace in its harmonies." (20)



"Use of the saxophone in wartime." Cartoon in Le Charivari, November 15, 1854.

Sax was made a target by cartoonists and humorists when he exhibited his colossal brass instruments, ingeniously built, but utterly impracticable. But he furiously retorted: "Next year, I shall exhibit an instrument with the diameter of the Colonne de Juillet (the bronze column on the place de la Bastille) and I shall call it the Saxotonnerre (Sax-Thunder) . (21)

Be that as it may, in 1849, Sax was granted a patent for "an improvement of the whistle-signal of railway-engines.

In later years, his studies of acoustics and the sonorous properties of the parabola brought him to plan a new Concert-Hall, as well as a special stand for open-air concerts. Both models, duly patented, were shown at the Paris International Exhibition in 1867. To our knowledge, shown at the Faris International Exhibition in 100.1 No our kinetion; this quaint invention of Sax received only one practical application; in the podium or "kiosk" of the Waux-Hall in the Royal Park of Brussels. The result was rather disappointing. (22)

Gothe said that only works composed for a special occasion can be great. Sax was faithful to this principle and tried to remain in harmony with the spirit of the times. As Dr. Goris puts it: "When the siege of Sebastopol was going on, he dreamed of a super-blockthe stege of Sebastopol was going on, he dreamed of a super-block-buster which was to be a mortar-bullet, 11 yards wide and weighing 550 tons. With one shot, this projectile would demolish a whole city. It would tear apart, smash entire walls, ruin fortifications, explode mines, blow up powerhouses—in a word, exert an irresistible devastation in a wide range, not to mention the horrible fright this explosion would provoke. This weapon would have been called the Saxo-graphon (223) cannon." (23)

Sax's quicksilver mind swiftly turned from ballistics to medicine. He contended that people playing wind instruments would, by so doing, preserve and strengthen their lungs. He observed that tuberculosis was unknown among these musicians.

In other words, if Chopin, instead of writing the divine $\it Etude in E major$ for the piano, had originally written and performed at least once every day the abominable and sacrilegious saxophone arrangement, scribbled nowadays and baptized "Tristesse de Chopin" (Sorrows of Chopin), he would not have died of consumption at thirty-nine.

Sax stuck to his belief and did not hesitate to present a memoir on the subject to the Paris Academy of Medicine. And in 1865. Alphonse Sax, Junior, probably a brother, published a booklet entitled "The Gymnastic of the Lungs—Instrumental Music considered from the hygienic point of view—the Creation of Women Orchestras"—The Academy of Medicine did not pay much attention to the Sax therapeutics and the inventor blew in vain on his most sonorous trumpets.

He was more successful with the "Goudronnière Sax," a tar box destined to impregnate the air of a room with the scent of tar, cresoste or other antiseptic. The following letter from one of the greatest scientists of the 19th century, proves that, this time, a Sax non-musical invention was taken seriously:

Alais (Gard), February 9, 1866

Dear Mr. Sax,

You may be surprised at my delay in thanking you for the funnigation box you were kind enough to send me in Paris. It has proved very useful and I gave it to Mr. D., a director at the War Ministry, whom I met at a dinner. A prominent physician had just been recommending the use of your box to him.

May I ask you, dear Mr. Sax, to send me two more samples of the same box. I would like to utilize them for certain studies of mine, and would like to have them empty, I shall fill them myself with the substances with which I want to experiment. Please send me the parcel by Grande Vitesse to Alais where I am staying, and I will refund the cost. I would like to have boxes of the same shape that you already sent me.

> Believe me, etc, etc, PASTEUR membre de l'Institut (24)

A man may be proud to be able to present a Louis Pasteur with even an empty element for one of his experiments, and also to receive a mark of appreciation from this great benefactor of humanity. Genius is intuitive. And most probably Pasteur had sensed what kind of person our Belgian inventor was.

A strange man. And a character.

And, at the same time, almost a genius.

His contribution to acoustics can not be neglected. In the words of Fétis, "the fruit of his studies and experiments resulted in this fundamental law: that sound-quality (timbre) is caused by the proportions received by the air-column from the very proportions of the instrument containing it." (25)

Sax himself, during one of his lawsuits, expressed this law in very clear terms: "The proportions cause and determine the nature of an instrument; not its shape, nor the material it is built of. The sound qualities depend on the proportions, which differ from one instrument to another, and distinguish a horn from a trumpet, and a bugle from a saxophone." (26

More than this theoretical discovery, and still more than the invention of this or that instrument, the grouping of brass instruments into homogeneous "families" as he calls them, remains Sax's greatest title to immortality.

As Kastner puts it: "With the new instruments of Sax, any difficult passage can be easily performed, whatever its pitch or sound quality, so that the composer may now lead the melodic line from one part to another and on the whole range of the musical scale, his basses being capable of "singing" as melodiously as his soprani or alti. In building his instruments, Sax divided them into families. The single members of such families are so perfectly linked to each other, from

the bass to the highest pitch, that their blending is most agreeable to the ear, each voice with its particular sound quality remaining distinctly perceptible. Such an ensemble is comparable to that of a group of singers in a well disciplined choir." (27)

The consequences of these facts reach far beyond the progress of military bands.

Oboes, bassoons and French horns are by no means easy to play. Their replacement by instruments better adapted to the average performer has brought about a revolution in the educational role of music. All over the world, in the remotest village as well as in the largest metropolis, brassbands, choral societies, bands of every kind are spreading the love of music among the masses. This would not have been possible without the reorganization achieved by Sax.

This writer was recently admiring one of the monster parades marching along Fifth Avenue in New York City. Hundreds of musicians in brilliantly colored costumes, preceded by their glamorous majorettes, passed before him. Each band, with very slight variations, was formed in the now traditional manner prescribed by our Belgian inventor.

If we now pass on to symphonic music, the grouping of brass instruments into homogeneous "families" has given modern orchestras a sonorous platform, a basic ground that was unknown to Mozart, Gluck and Beethoven. The prophecies of composers, such as Rossini, Halévy and Berlioz, have been fulfilled.

This "homogeneous grouping" of the brasses has rendered possible the musical exploration of the sound depths.

Neither the roars of Fafner (Wagner—Siegfried, Act II) nor the lament of Dr. Faust (Gounod—Faust, Act I), nor even the earth-hidden mysteries of the death of St. John the Baptist (Richard Strauss—Salomé), could have been possible without it. The instruments used by the composers may not have been those of Sax. The instrumental conception was undoubtedly his.

No less than thirty-five patents were granted to Sax. Some of them are concerned with the improvement of existing instruments, others with the invention of new families of instruments. We shall not go into technical descriptions of these improvements: cylinders instead of valves, six valves instead of three, sound-reflectors, sound-correctors, etc. Every treatise of instrumentation mentions them together with the Sax instruments. Berlioz gives an accurate description of the sax-ophones, saxhorns, saxotrombas and saxtubas, (20) Both the latter groups (the saxotromba, an intermediary between bugles and trumpets, and the saxtuba, an improvement of the German bass-tuba) have fallen into disuse. So has the Sax kettle-drum (timbale à pistons), in which the constructor simply suppressed the kettle and bells, nowadays replaced by sonorous metal masses.



Patrick Gilmore conducting the Boston International Peace Festival, June 1872. Harper's Weekly.

But the saxhorus are still used in modern instrumentation. They remain an essential part of the bands. "There is no doubt that the inventor of the saxhoru added greatly to the compass, richness and flexibility of the military brass and reed bands," writes Grove in his dictionary. (29)

The bass-clarinet remains an honored member of the woodwind group.

But the saxophone . . . Well, the saxophone . . .

This instrument, wrote the great Belgian musicologist Gevaert in his *Treatise of Instrumentation*, is based on a principle never before applied to the construction of any of the sonorous apparatus that the modern world has inherited from the bygone centuries or the exotic peoples: the vibration of an air column inside a conical tube, by means of a mobile reed similar to that of the clarinet. (30)

The voices of Rossini, Auber, Spontini, Donizetti, Halévy, Meyerbeer, Liszt joined in a chorus of praise for the saxophone.

Fétis, in his official report on the Paris Exhibition of 1855, wrote: "The tone of the saxophone is beautiful and warm. The character of its sound cannot be compared to that of any other instrument. Melancholic in its tone, it is less adaptable to rapid passages than it is to melodious tunes or harmonies."

And again and again, we find the unfailing advocate of Sax's inventions, Hector Berlioz.

His articles of August 21, 1849 and April 13, 1851 have been often quoted. Some writers, like Jaap Kool, have even confused these panegyrics with the article published by Berlioz seven or nine years earlier, on June 12, 1842.

Here is an excerpt from the 1851 article:

"The saxophone, Sax's masterpiece, possesses incomparably expressive qualities; the accuracy and beauty of its sound—when played by a skilled performer—are such that it can, in slow movements, vie with the best singers. The saxophone sighs and moans and dreams. It can render a crescendo and it can weaken its voice to a dim whisper, the echo of an echo. In a few years, when the use of the saxophone has become a matter of course among performers, composers will be able to produce, thanks to this admirable instrument, effects unthought of until now."

And how did the saxophone get to America? When did it receive its first papers? And what about jazz?

It is generally admitted that the instrument was introduced in American bands by the famous bandmaster Patrick Gilmore. This "salesman of musical thunder" was the first to achieve the mammoth band and choral performances that later were to serve as models for

ADOLPHE SAX AND HIS SAXOPHONE

Sonza. In Boston, he organized the two memorable "Peace Jubilee" celebrations, in 1869 and 1872. In the first, held before an audience of 50,000 people in a specially built arena, the final chords were punctuated by mortars firing in the distance. Military bands from several European countries (including the French Garde Républicaine) came over to take part in the 1872 festival. The following year, Patrick Gilmore organized his New York band of one hundred musicians, which included eight saxophones. (31)

Most authors agree that the saxophone was a late addition to jazz. As Mr. Sidney Finkelstein puts it, "the saxophone figured little in (the early) New Orleans small bands. Sidney Bevhet (the famous clarinetist, adopted the soprano sax . . . It was with the rise of the large band, however, that the saxophone became a central instrument of jazz. The alto, tenor and baritone saxes filled the same role as the quartet of strings in the rise of the symphony orchestra, a body of instruments, homogeneous in tone, which could form the harmonized basis of the musical structure. And with the growing importance of the saxophone in jazz, the instrument developed a solo style as well." (32)

A sax . . . the saxes . . . When the name of a man becomes the name of a thing, it means that the earthly renown of that man is great and that he really deserves fame.

The saxophone has never given up its ambitions to be a solo instrument, eminently adapted to the interpretation of noble and sophisticated music. The brief and incomplete list of pieces especially written for the saxophone by modern composers, will enable the layman to judge of the instrument's "musical standing."

In an article entitled Bach and the Saxophone, a Dutch reviewer, Mr. Pynenborg, praising the virtuosity and musicianship of the Danish-American soloist Sigurd Rascher, wrote: "He maintains the saxophone in a sphere of dignity and beauty." (33)

Maybe for some people, the saxophone is a nuisance. But for the immense majority, it is a source of joy. According to Jaap Kool, writing about twenty years ago, over a million saxophones had been built all over the world; 820,000 in the U.S.A. alone. (34)

Adolphe Sax would surely have rejoiced in this gigantic figure, so typical of his astounding aspirations.

Description du Bee 11.9 Ber Quedaxophone bafre. Les autres bees

Description of the saxophone mouthpiece in Sax' own handwriting.

- (1) OSCAR COMETTANT Histoire d'un Inventeur au XIXe siècle, Paris, 1860.
- ALBERT REMY La Vie tourmentée d'Adolphe Sax, Brussels, 1939. (2)
- EUGEN ROSENKAIMER—The Saxophone in its earlier stages and in the ludgment of renowned Musicians, in The Sackbut, Vol. XI, No. 3, London, October 1930 (3)
- (4) IBID
- GEORGES KASTNER Manuel Général de Musique Militaire à l'usage des Armées Françaises, Paris, Firmin Didot, 1847. (5)
- J-G. PRODHOMME Bibliographic Berliozienne, in Sammelbände der Internationalen Musikgeselschaft, Fünfter Jahrgang, 1903-1904, pp. 622-659.
- (7) HENRI RADIGUER La Vie et l'Oeuvre d'Adolphe Sax, in Encyclopédie de la Musique et Dictionnaire du Conservatoire (Lavignac et La Laurencie), Part II, Vol. 6 (L'Orphéon)
- (8) ROSENKAIMER Art. cit.
- ADAM CARSE Adolphe Sax and the Distin family, in The Music Review Cambridge, England, Vol. VI, No. 4, November 1945.
- (10) GEORGES KASTNER Op. cit. p 235 seq.
- AUGUST KALKBRENNER Wilhelm Wieprecht, sein Leben und Werken Berlin, 1882, pp. 47 seq
- WILHELM WIEPRECHT, apud KALKBRENNER, Op. cit. Appendix II. (12)
- FIORENTINO, apud COMETTANT Op. cit. pp. 250, seq.
- BERLIOZ Journal des Débats 21st August, 1849.
- J.-A. GORIS—Birth of the Saxophone in News from Belgium, March 25, 1944.
- F.-J. FETIS Biographie Universelle des Musiciens, Adolphe Sax (extrait du Tome VII de la Seconde Edition) Paris, 1864.
- OSCAR COMETTANT Op. cit. passim (17)
- (18)Ibid.
- R. WAGNER—"Aus Meinen Leben", English authorized translation, Vol. II, p. 761, New York, 1911
- (20) BERLIOZ Journal des Débats April 1st, 1845
- (21) EMILE GOUGET Histoire Musicale de la Main, Paris, 1898

- (22) HENRI RADIGUER Op. cit
- (23) J. A. GORIS Art. cit
- (24) HENRI RADIGUER Op. cit
- (25) F.- J. FETIS Op. cit
- (26) ADOLPHE SAN -Note anx Conseillers de la Cour de Rouen, s.d., apud F. J. FETIS, op. cit
- (27) G. KASTNER Op. cit, Livre III, ch.L, pp. 332
- (28) HECTOR BERLIOZ Supplément du Grand Traite d'Instrumentation et d'Orchestration (Les nouveaux instruments) Paris, 1856.
- (29) GROVE—Dictionary of Music and Musicians (4th edition Vol. IV, pp. 532-534.
- (30) GEVAERT Traité d'Instrumentation, apud RADIGUER, Op. cit.
- (31) GEORGE LEIGHTON Bandmaster Gilmore, The American Mercury, October 1933.
- 632) SIDNEY FINKELSTEIN Jazz, a People's Music, New York, 1948, p. 50.
- (33) PIET PYNENBORG Bach op de Saxophoon, in Mens en Melodie, Jaargang IV, No. 3, 1949, Utrecht, Netherlands.
- (31) JAAP KOOL Das Saxophon, Leipzig, 1931, passim.

APPENDIX I

Articles by Hector Berlioz in the "Journal des Debats" containing references to Adolphe Sax and his instruments.

June 12, 1842; April 20, September 12, October 8 and November 8, 1843; April 1, April 29 and September 12, 1845; July 29, 1846; February 14 and October 12, 1847; April 21 and August 21, 1849; January 17, April 13 and November 27, 1851; January 7, 1852; December 25, 1853; October 11, 1854; and November 24, 1860.

APPENDIX II

Excerpts from the Saxophone Repertoire

- Paul CRESTON—Suite for E-flat alto saxophone and piano, Los Angeles, 1938.
- Jaques IBERT-Aria for saxophone (alto) and piano. Paris, 1932
- Jacques de LA PRESLE—Orientale for saxophone (alto) and piano Paris 1930.
- Jacques IBERT—Concertino da Camera for saxophone (alto) and eleven instruments. Paris, 1935
- Paul HINDEMITH—Trio for viola, heckelphone or tenor saxophone and piano. Mainz, 1929
- Marcel DELANNOY—Rapsodie for trumpet, saxophone (alto), cello and piano. Paris, 1934
- Anton von WEBERN—Quartet for violin, clarinet, tenor saxophone and piano. Vienna, 1932.
- Claude DEBUSSY—Rapsodie for saxophone (E-flat alto) and orchestra. Paris 1919.
- Alexander GLAZUNOV—Concerto in E-flat for saxophone alto and string orchestra. Paris, 1936
- Vincent d'INDY—Choral varié for solo saxophone (alto) and orchestra, op. 55. Paris, 1903.

Famous saxophone soli or ensembles are to be found in BIZET (Suites de l'Arlésienne), Vincent d'INDY ("Fervaal"), Richard STRAUSS (Sinfonia Domestica), Jacques IBERT ("Angélique"), etc. etc. SAINT-SAENS, Leo DELIBES, Gustave MAHLER also used the saxophone in some of their scores.

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